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09/857,209	06/22/2001	Yuko Tachibana	209663USPCT	6187

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EXAMINER

PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
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1775

8

DATE MAILED: 10/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,209

Applicant(s)

TACHIBANA ET AL.

Examiner

Andrew T Piziali

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 1 already limits the thickness of the interlayer to 0.1 to 30nm.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication Number 07-043524 to Hironobu et al.

Hironobu discloses a method for producing a laminate comprising a substrate, a first transparent dielectric layer (2) that may comprise titanium oxide, a metal or metal nitride layer (4) and a third transparent dielectric layer (5) that may comprise titanium oxide laminated alternately in this order on the substrate in (2n+1) layers (wherein n is a positive integer), which comprises a step of interposing an interlayer (a second transparent dielectric film (3) that may comprise silicon oxide) having a refractive index of less than 2.4 at a wavelength of 550 nm at the interlaminar boundary between the titanium oxide layer (2) and the metal layer (4) (see entire document).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Publication Number 07-043524 to Hironobu et al.

Regarding claims 1-6, Hironobu discloses an article which comprises a substrate, first transparent dielectric film (2) that may comprise titanium oxide, a second transparent dielectric film (3) that may comprise silicon oxide, a metal or metal nitride layer (4) that may comprise silver, copper or gold, and a third transparent dielectric film (5) that may comprise titanium oxide [0008].

Hironobu fails to disclose a specific thickness range for the second transparent dielectric film (3), but in examples the thickness ranges from 35nm to 200nm (see Detailed Description). It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the thickness, because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claim 2, Hironobu does not mention the refractive index of titanium oxide layers, but considering that the applicants' specification discloses that titanium oxide alone may be used for the titanium oxide layers (page 10, lines 7-14) the titanium oxide layers of Hironobu would inherently possess a refractive index of at least 2.4 at a wavelength of 550nm.

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Regarding claim 6, Hironobu does not give the specific sheet resistance value, visible light transmittance or the visible light reflectance, but considering the substantially identical article of Hironobu, compared with the applicants' article, these properties would be inherent.

6. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hironobu as applied to claim 1 above, and further in view of US Patent No. 6,074,732 to Garnier et al.

Regarding claims 7 and 9, Hironobu discloses that the glass article may be laminated and may be used for vehicle windows [0001], but fails to mention laminating with a resin film. Garnier discloses that it is known in the art to laminate a vehicle window with a layer of PET to increase the shattering resistance (column 6, lines 64-67 and column 7, lines 1-5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to laminate the glass article of Hironobu, with a layer of PET, as disclosed by Garnier, because the PET layer increases the shattering resistance.

Regarding claim 9, considering the substantially identical laminate of Hironobu in view of Garnier, compared to the applicants' laminate, the visible light reflectance would be at most 3%.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hironobu as applied to claim 1 above, and further in view of US Patent No. 5,723,075 to Hayasaka et al.

Regarding claims 7-9, Hironobu discloses that the glass article may be laminated and may be used for vehicle windows [0001], but fails to mention laminating with a resin film. Hayasaka discloses a resin with a near-infrared absorbent and further discloses that the resin may be deposited on a desired substrate to endow the substrate with a near-infrared absorbing property (column 14, lines 21-35). It would have been obvious to one having ordinary skill in

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the art at the time the invention was made to laminate the glass article of Hironobu, with a layer of resin with a near-infrared absorbent, as disclosed by Hayasaka, because the resin would endow the substrate with a near-infrared absorbing property which would be desirable in applications requiring low reflectance.

Regarding claim 9, considering the substantially identical laminate of Hironobu in view of Hayasaka, compared to the applicants' laminate, the visible light reflectance would be at most 3%.

***Allowable Subject Matter***

8. Claim 11 is allowed.

9. The following is a statement of reasons for the indication of allowable subject matter:

The closest prior art is Japanese Publication Number 07-043524 to Hironobu, but Hironobu fails to teach or suggest a laminate comprising an interlayer having a refractive index of less than 2.4 at a wavelength of 550nm interposed at at least two interlaminar boundaries between the titanium oxide layers and the metal layer.

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (703) 306-0145. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5665.

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atp  
October 8, 2002

Andrew T Piziali  
Examiner  
Art Unit 1775

*Deborah Jones*  
DEBORAH JONES  
SUPERVISORY PATENT EXAMINER